CAPE

ENVIRONMENTAL

February 20, 2003

Christine O'Keefe
Missouri DNR
Voluntary Cleanup Program
1738 East Elm Street
Jefferson City, MO 65101

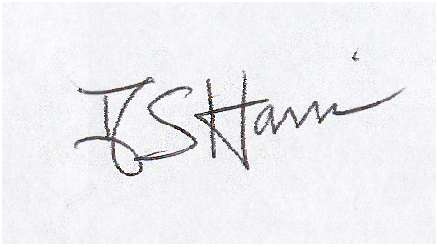
RE: **Response to MO DNR Comments – GSA Hardesty Federal Center Building 3A RAP**

Dear Ms. O'Keefe:

Please find attached to this cover letter CAPE's responses to your comments submitted to us on May 24, 2002 on the GSA Hardesty Federal Center Building 3A Draft Remedial Action Plan. Please let me know if you have any questions or would to discuss any of these responses. CAPE will wait to hear from you that you concur with our suggested approaches to address your comments prior to proceeding with production of the final document. Please give me a call at 678.287.1351 should you need to reach me.

Sincerely

CAPE Environmental Management Inc



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RESPONSE TO COMMENTS – MO DNR – VOLUNTARY CLEANUP PROGRAM
DECEMBER 3, 2002
REMEDIAL ACTION PLAN FOR UNREGULATED USTS NEAR BUILDING 3A
GSA HARDESTY FEDERAL CENTER
KANSAS CITY, MISSOURI

NO.	COMMENT / RESPONSE
1.	**COMMENT**: Please explain the property boundary designation on the northwest corner of the site. The hashed lines indicate commercial property separated by a chain link fence. Please be aware the Voluntary Cleanup Program (VCP) requires notification of adjacent property owners when contamination on a site crosses property lines. The original warranty deed submitted with the application shows the whole block being owned by GSA.
	RESPONSE: The property to the north and northwest of Building 3A is commercial property, as shown on Figure 2. Analysis of the soil sample taken from the southern border of the commercial property (HAR-SB30) indicated the presence of diesel fuel constituents at 18-20 feet below ground surface. Additionally, groundwater sampling in the area suggests the possibility that site-related contamination may have migrated in the vicinity of the southeastern border of the commercial property. GSA will notify the property owner of this possibility and copy MO DNR on the correspondence.
2.	COMMENT: Free product was found in SB 50, 51, 52, 55 and 57 so soil was not collected. Was an analysis of this free product made to determine origin? Are you making the assumption it is from the heating oil tanks adjacent to these borings?
	RESPONSE: The free product was not analyzed as part of the site characterization effort. CAPE assumes that the free product observed during the December 2000 and May 2001 site characterization efforts is related to releases from the former heating oil tanks. This assumption is based on the immediate vicinity of these sample locations to the former heating oil tanks, field observations of soil borings during sampling efforts, and sample results from other nearby locations that indicate heating oil-related contamination (i.e. diesel range organics).
3.	**COMMENT**: Please submit a corrected copy of Figure 8 Cross Section. The drawing shows free phase hydrocarbons between thirteen and sixteen feet. Figure 2 of the Site Characterization Report shows depth of product in feet in soil borings. In a subsequent telephone conversation you indicated this figure was a mistake. Please be aware VCP recommends the removal of free phase hydrocarbons prior to any remediation or bioremediation.
	RESPONSE: Comment incorporated as noted. As described in Section 7.1.3.1.2, soils contaminated with free product will be excavated and disposed off site. Excavation of soils would be performed to a depth where the water table is encountered. Any free product that is not removed via soil excavation would be addressed by the direct application of the oxygen releasing compound slurry to the base of the excavation pit.

NO.	COMMENT / RESPONSE
4.	**COMMENT**: Figure 7 (Potentiometric surface map) is not correct. Elevations for the monitoring wells do not correspond to the corresponding contour in feet lines.
	RESPONSE: This situation was previously noted during internal review of the Hardesty Federal Center corrective action documents. It was determined through review by a CAPE environmental engineer and a Missouri-registered geologist that the apparent increased elevations can be attributed to mounding effects caused by the presence of fill materials used to replace excavated soils in the former tank locations.
5.	**COMMENT**: Appendix C does not list the hydraulic gradient (I) calculation. Please provide this calculation in the final report.
	RESPONSE: Comment incorporated as noted.
6.	**COMMENT**: Figure 4 in the Site Characterization Report Addendum shows an abandoned 1,500-gallon UST east of former Building 20. Please provide additional information on this tank.
	RESPONSE: CAPE was tasked to prepare a corrective action plan for the USTs associated with Building 3A. The 1,500-gallon UST east of Building 20 is outside the scope of the RAP for the Building 3A USTs and is unrelated to contamination in the area of concern for these USTs. However, at the request of GSA in December 2000, CAPE obtained four soil samples (HAR-SB45-48) from the vicinity of the former 1,500-gallon UST location east of Building 20 at depths of 12-20 feet below ground surface. These soil samples were analyzed under Iowa OA1 and OA2 Methods and the analytical results were below detection limits for all analytes. CAPE was informed by GSA that this UST was removed by excavation in 1988.
7.	**COMMENT**: Please explain the shift in the groundwater contamination plume on the maps in Site Characterization Report Addendum and DRAFT Remedial Action Plan. The RAP shows a shift in the plume to the northwest when the groundwater flow is to the northeast. In addition, the RAP shows the plume larger and crossing onto the commercial property whereas the addendum shows a narrow band and contained within site boundaries.

NO.	COMMENT / RESPONSE
	RESPONSE: The change in the estimated groundwater plume from the Site Characterization Report to the RAP is based on several factors. Primarily, it was determined that groundwater flows in a more northern direction based on the potentiometric map and contaminant levels in the downgradient monitoring wells. The extent of groundwater contamination was expanded based on a more conservative estimate of plume migration and reanalysis of data during preparation of the RAP document.
8.	**COMMENT**: Please submit documents showing utility lines in and around Buildings 3 and 3A. Steam tunnels and utility lines are present on this site. No documents submitted to the VCP show any utility lines. Documents submitted recently to the Tanks section show utility lines around Building 4 and west of Building 7. Utility lines may act as conduits to contaminants.
	RESPONSE: Comment incorporated as noted. CAPE was able to locate utility maps for electrical, water, steam, and sewer lines in the vicinity of Buildings 3 and 3A. However, these maps are dated 1950 and utility lines/locations may have changed over the past 50 years. CAPE will add the relevant utility line locations to Figure 4 and Figure 6 to compare the utility line locations to the estimate extents of soil and groundwater contamination. Should MO DNR require more recent utility designations, GSA should be contacted to contract utility marking and steam line surveying services.
9.	**COMMENT**: Soil contamination does not seem to be consistent between the addendum report and the RAP. Figure 3 Estimated Extent of Soil Contamination (Addendum) seems to show a much larger area requiring remediation. This map includes those soil borings 51, 52, 59, and 60 that showed free product and were not sampled (Site Characterization Report). Please explain this discrepancy between these reports and rationale for remediating a smaller area.

NO.	COMMENT / RESPONSE
	RESPONSE: The difference between estimated extents of soil contamination in the Site Characterization Report and the RAP exists because of the different objectives of the two projects. The extent of soil contamination in the Site Characterization Report represents an estimate based on the presence of free product in soil samples taken. The objective of this assessment was to estimate the potential areas where soil contamination may exist based on the presence of free product. The extent of soil contamination in the RAP is based on a conservative estimate of areas where soil has been impacted above regulatory levels that can reasonably be excavated to remove soils that require corrective action (i.e. soil contamination above the CALMs for benzene and diesel fuel). Additionally, this extent of contamination was selected based on actual detection of contaminants in soil as opposed to free product existing at the water table and the relative immobility of heating oil in soil (i.e. estimated to remain in the general area of the former UST locations). As described in Section 7.1.3.1.2 excavation will continue in the horizontal direction until confirmation sampling indicates that all soils have been removed above regulatory limits. The extent of soil contamination presented in Figure 9 of the RAP is presented to determine potential extents of excavation for cost estimating and implementability purposes. The actual extent of soil excavation would be determined in the field according to confirmation sample analytical results.